

The Bailey Boys

By Cherub Log

The following comprise extracts from data created by Historical Records of Australian Science, "The Bailey Boys" by Walter Fielder-Gill; "Radar at Sydney" by Robert Slatyer; an address given by Bob Slatyer at the Bailey Boys 50th anniversary Reunion September 1994; and biographical notes compiled by John Medhurst. The author acknowledges all these references.

In 1941, the Department of Physics, University of Sydney was selected to train men in the science of Radio Location, later to become known as Radar. The major thrust for this was through the Royal Australian Air Force, which at the height of its influence established 142 ground radar installations in the SW Asia Pacific region. The Royal Australian Navy also participated in this program to a lesser degree than the RAAF, mainly because the RAN had a limited number of ships in which radar could be installed and effectively operated. The man charged with the responsibility of developing and delivering the lengthy and high pressure training course was Professor Victor A Bailey, University of Sydney. A natural consequence was that Victor Bailey's charges came to be known as Bailey's boys, and subsequently, The Bailey Boys.

The first intake, mainly, but not all, second year undergraduates of Sydney University, commenced their training on the 15th September 1941, concluding in February 1942. Thirty eight of these then went on to eight weeks administrative training at the University of Melbourne, and upon completion were commissioned as Pilot Officers RAAF. Then followed twelve weeks training on secret radar specifics at RAAF Richmond.

Upon entering the initial training, the intention was that graduates would join the RAF to participate in the European war, but when Japan entered the war in December 1941, all were retained to assist in Australia's defence.

The second course commenced in March 1942 with undergraduates from five Australian universities. In this class were fifteen RAN trainees, the only RAN officers to be trained in the Bailey Boy program. Fourteen of the initial fifteen successfully completed the University of Sydney training. They were then sent to Flinders Naval Depot for 6 weeks officer training, followed by a period at what was to become HMAS Watson at Sydney's South Head. At South Head they familiarised themselves with contemporary radar equipment, and were then each sent to different ships and shore establishments for operational duties.

There were three more courses throughout 1942 and to January 1943, all to provide the RAAF with radar specialist officers. The Army then enrolled men in two courses, the last one concluding in March 1944. In total, there were 249 Bailey Boys. Of these, 160 were commissioned in the RAAF, 14 in the RAN and 75 in the Army.

It is well beyond the scope of this chapter to give even an abridged summary of the University of Sydney training content. However, the following will offer a glimpse into the education process provided to the Bailey Boys.

The accent was on understanding the basics of the technology by a thorough examination of the underlying mathematics and physics, supplemented where appropriate by exercises. Some of the topics included analyses of complex circuits using differential equations and a vector approach to the steady state, and the use of operators and complex numbers. These techniques were applied to concepts such as coupled circuits, transmission lines, attenuation and wave generation to name just a few. In all about 125 mathematical equations were examined and used. There were lectures on topics such as thermionic valves, cavity resonators, types of oscillators, amplifiers, phase inverters and harmonic resonators. As well students studied metalwork, woodwork, the use of equipment and safety considerations. Wave form generation and propagation received a lot of attention. To assist in comprehending the advanced mathematical treatments, basic maths such as trigonometric and hyperbolic functions, differential and integral calculus and Fourier Analysis were thoroughly explored. Throughout, there were 34 major exercises to be completed, regular tutorials, and periodic one hour examinations.

The desired outcome of this intensive training program was to create a cadre of technical officers who would be capable of assuming lead roles in the design, development, installation, and on occasions the repair of obscure operational faults, of radar technology. As well, these men would be required to devise radar counter measures, to assist in the creation of maintenance handbooks for the various radar models being produced, to liaise with contractors and civilian manufacturers, to be the administrators of radar installations and to be the mentors of the maintenance technicians. All this after an incredibly short period of about 12 months training. Considering that all were second year university undergraduates aged around 19 upon commencement of their training, the desired outcome became a remarkable success.

Overall, the consensus opinion shared by the Bailey Boys is that the program was very worthwhile. There are however supporters and detractors in specific areas. Some feel that the exhaustive study of the underlying theory provided them with the ability to “think outside the nine dots” when addressing any of the problems encountered when operational, and that this was most valuable. There are others who feel that lesser theoretical treatment of some topics such as alternating current theory would have allowed more time to study some of the practical considerations such as antenna design, because antenna efficiency is key to the success of any radar. Perhaps Professor Alf Pollard’s question summarises this apparent dilemma, “Could we have won the war without knowing about Fourier Theory?” Alf Pollard’s question is rhetoric, and we will never know the real answer.

RAN Bailey Boys served in the HMA Ships Australia, Shropshire, Hobart, Manoora, Bataan, Yandra, Kanimbla, Westralia, Faye C, Kybra, Townsville, Swan. As well as these shipboard responsibilities, Bailey Boys had different assignments as Port Radio Officers, Dockyard Officers, Instructors, Installation

Officers, Radar Counter Measure Officers. They served in various Papua New Guinea east coast locations such as Madang, Lae, Aitape. As well they were on the New Guinea west coast, and further north and west of what is in 2004, Irian Jaya, into the Indonesian islands of Sulawesi and the Halmaheras. In terms of wide ranging operational locations, the cream on the cake, so to speak, was that two were in Tokyo Bay for the Japanese surrender.

Following are snapshots of the WW2 experiences of the 14 RAN Bailey Boys commissioned. Except for those entries marked with **, the information has been provided courtesy John Medhurst.

George Campbell : Did not complete the Bailey Boy course. Demob 20/5/46 as Lt(Sp)

Richard (Dick) Coyle: 1942 Rushcutter & Watson. 1943-44 Radar Officer Manoora. 1944-46 Port Radar Officer Cairns and Darwin.

Kenneth Andrew Glover **: Demob 20/5/46 as Lt(Sp)

Collins Greaves **: Demob 24/1/46 as Lt

John (Jock) Robert Hornsby: 1942-43 Rushcutter & Watson. Directed to specialised work on Radio Counter Measures (RCM) Brisbane & Darwin. 1944-45 Shropshire and other ships with RCM equipment. Demob 18/2/1946 as Lt(Sp)

Norman Louat **: Rushcutter, Broome, Moreton Westralia, Madang, Binger, Aitape. Demob 7/3/46 as Lt.

Ronald (Ron) Joseph Lukies: 1942-43 Rushcutter & Watson. 1943 Radar Section Navy Office preparing standing orders and instructions for radar personnel, analysis of radar faults and improving component design. Subsequent short service in HMASs Townsville and Swan. Later to Radar-Radio Workshop at Leichhardt, then to HMAS Bataan. Demob 1946

Alistair John MacKenzie: 1942-43 Rushcutter & Watson. 1943-45 Radar Officer HMAS Australia. Demob 17/9/45 as Lt (Sp)

Archibald (Archie) John McArthur: 1942 Rushcutter & Watson. 1943 Williamstown Dockyard, Brisbane Dockyard fitting of shipborne radar. 1944 New Guinea, maintenance of shipborne radar from Madang to Milne Bay. 1945 Brisbane dockyard radar maintenance. Demob 30/11/45 as Lt(Sp)

Colin William McIvor: 1942-43 Rushcutter & Watson. 1943 Radar Officer HMAS Hobart until Sydney return for damage repair. 1943-44 Yandra operator training and convoy work. 1944-45 Assistant PRO Melbourne. 1945 HMAS Semaphore PRO Adelaide fitting out AMS. Demob 6/2/46 as Lt(Sp)

John Philip Medhurst: 1942 Cerberus OD Signal School. 1942-43 Rushcutter & Watson. 1943-44 Radar Officer Kanimbla. 1944-45 Instructing at Watson. 1946-47 Radar Officer Warramunga and Bataan. Demob 6/3/47 as Lt(Sp).

Daniel (Dan) Frederick O'Keeffe: 1942-43 Rushcutter & Watson. Then to Brisbane fitting out basin doing radar installations. Then to Base Radar Milne Bay and Madang. Then Radar Repair ship Faye C working around New Guinea. 1946 to Brisbane fitting out basin again. Demob 19/11/46 as Lt(Sp)

Robert (Bob) Thomas Slatyer: 1942-43 Rushcutter & Watson. April 43 - June 43 HMAS Hobart. June 43 - October 43 Watson writing A76 handbook. October 43 - January 46 Radar Officer Shropshire. January 46 - September 46 HMAS Leeuwin. Demob 26/9/46 as Lt (Sp)

Clive Reginald Taylor: 1942-43 Rushcutter & Watson. 1943-46 Section 22, Office of Chief Signal Officer GHQ. SWPA Brisbane, RCM work. Demob 16/3/46 as Lt(Sp)

Ronald (Ron) Henry Whitten: 1942-44 Rushcutter & Watson. Operator training HMAS Kybra. 1944-45 Radar Officer HMAS Hobart. 1945-46 Cerberus. Demob 9/3/46 as Lt(Sp)

** At the time that John Medhurst was compiling the foregoing information, Greaves and Glover were deceased, and Louat could not be located. Hence a lack of information about these three.

In conclusion, to quote Bob Slatyer, "Whatever the position to which they were appointed, the Navy Bailey Boys consider they were privileged to have been able to attend the course and that the instruction given was of great value to them during their Service career."